

IN THE CLAIMS:

Please amend the claim as follows:

1. (Currently Amended) A gained-clamped semiconductor optical amplifier comprising:
a single mode fiber adapted for receiving a pumping light;
a semiconductor optical amplifier connected to an output of the single mode fiber for providing the pump light; and
an optical isolator attached to an output of the semiconductor optical amplifier,
wherein the single mode fiber is adapted to provide a gain from a longer wavelength side distanced by about 100nm from a wavelength of the pumping light[[,]] and ~~amplifies to amplify~~ an input signal light having a same wavelength as that of the gain.

2. (Currently Amended) A gain-clamped semiconductor optical amplifier that provides optical amplification by using semiconductor amplifier and Raman optical amplification principle, in which a pumping light is incidented into an optical fiber so as to cause a gain to appear on a longer wavelength side distanced by about 100nm from the pumping light by stimulated Raman scattering and ~~subsequently~~ in which a signal light ~~in which that~~ the gain appears is subsequently incidented into the excited optical fiber for amplification, the gain-clamped semiconductor optical amplifier comprising:

an optical fiber having Raman gain characteristics; and
a gain-clamped semiconductor optical amplifier for providing a pumping light to the optical fiber by laser oscillation using a distributed Bragg reflector (DBR) lattice having input and output terminals asymmetrical to each other, and for amplifying a signal light Raman-

amplified by the optical fiber.

3. (Original) The device according to claim 2, wherein the distributed Bragg reflector (DBR) lattice having an input and an output terminal asymmetrical to each other, is formed such that an optical power of the input terminal of the laser has a power of at least ten times larger than that of the output terminal of the laser.

4. (Original) The device according to claim 3, wherein the optical power of input terminal of the laser is 100mW or more.

5. (Original) The device according to claim 2, wherein a pumping light supplied to the optical fiber has a wavelength band at least 70nm shorter than a wavelength band of a transmission signal light.

6. (Original) The device according to claim 2, wherein the optical fiber is an optical fiber which can obtain a Raman gain.

7. (Original) The device according to claim 6, wherein the optical fiber is a single-mode fiber or dispersion shifted fiber.

8. (Currently Amended) A gain-clamped semiconductor optical amplifier using Raman amplification principle, the gain-clamped semiconductor optical amplifier comprising:

an optical fiber having an input terminal and an output terminal with a lattice structure adapted to be asymmetrical to each other so as to exhibit Raman gain characteristics; and

a ~~gain-clamped~~ semiconductor optical amplifier for amplifying a signal light that is Raman-amplified in the optical fiber by laser oscillation using a distributed Bragg reflector (DBR) lattice.

9. (Original) The device according to claim 8, wherein the lattice of the optical fiber, in which an input and an output terminal is asymmetrical to each other, is formed in such a manner that an optical power of an input terminal of the laser has a power of at least ten times larger than that of an output terminal of the laser.

10. (Original) The device according to claim 9, wherein the input power of the laser is 100mW or more.

11. (Original) The device according to claim 8, wherein a pumping light supplied to the optical fiber has a wavelength band at least 70nm shorter than a wavelength band of a transmission signal light.

12. (Original) The device according to claim 8, wherein the optical fiber is an optical fiber adapted for obtaining a Raman gain.

13. (Original) A gained-clamped semiconductor optical amplifier comprising:
a single mode fiber adapted for supplying ~~with~~ a pumping light;
a semiconductor optical amplifier connected to an output of the single mode fiber; and
an optical isolator attached to an output of the semiconductor optical amplifier,
wherein the single mode fiber is adapted to provide a gain from a longer wavelength side
distanced by about 100nm from a wavelength of the pumping light, and amplifies an input signal
light having a same wavelength as that of the gain.

14. (Currently Amended) A method for providing a gained-clamped semiconductor
optical amplifier comprising:

(a) providing an optical fiber for receiving a pumping light, said fiber is adapted to
provide a gain from a longer wavelength side distanced by about 100nm from a wavelength of
the pumping light;

(b) providing a semiconductor optical amplifier connected to an output of the fiber for
supplying the pump light;

(c) providing an optical isolator attached to an output of the semiconductor optical
amplifier; and

(d) supplying an input signal light to the fiber having a same wavelength as that of the
gain ~~of~~ from the pumping light for amplification.

15. (Original) The method according to claim 14, wherein a pumping light supplied to the
optical fiber has a wavelength band at least 70nm shorter than a wavelength band of a
transmission signal light.

16. (Original) The method according to claim 14, wherein the gain of the pumping light is provided in step (a) by Raman scattering.

17. (Original) The method according to claim 14, wherein the semiconductor optical amplifier in step (b) uses laser oscillation comprising a distributed Bragg reflector (DBR) lattice having input and output terminals that are asymmetrical to each other.

18. (Original) The method according to claim 17, wherein the DBR lattice is formed so that an optical power of the input terminal is at least ten times larger than an optical power of the output terminal.

19. (Original) The method according to claim 14, wherein the fiber comprises a single mode fiber or dispersion shifted fiber.

20. (Original) The method according to claim 14, wherein a lattice of the optical fiber have an asymmetrical structure at an input and output section such that as to provide Raman gain characteristics.